

R E M A R K S

Claims 1 to 13 as set forth in Appendix II of this paper are now pending in this case. Claims 14 and 15 have been canceled, and Claims 1, 2 and 5 have been amended, as indicated in Appendix I of this paper.

In light of the amendment it is respectfully requested that the rejections pertaining to Claims 14 and 15 be withdrawn. Favorable action is solicited.

Applicants have revised Claims 1, 2 and 5 to better bring out the metes and bounds of the claimed subject matter. Accordingly, the wording "*unsubstituted or substituted*" in the definition of R^1 and R^2 has been deleted. In its stead the phrase --optionally substituted-- has been added before " C_1-C_{12} -alkyl" in the definition of R^1 to R^4 in accordance with applicants' disclosure on page 2, indicated line 32, to page 3, indicated line 4, of the application, and before "aryl" in the definition of R^1 and R^2 in accordance with applicants' disclosure on page 3, indicated lines 17 to 23, of the application. Additionally, applicants have revised the definition of R^3 of the radical $CH(OR^3)_2$ to include the embodiments disclosed on page 3, indicated lines 6 to 15, of the application. The definition of R^4 of the carboxylic acid of formula (IV) has been revised to include --hydrogen-- to cover formic acid which is employed as the carboxylic acid in applicants' representative examples set forth on page 6, indicated line 12, to page 7, indicated line 7, of the application. No new matter has been added.

The Examiner has rejected Claims 1, 2 and 5 under Section 112, ¶2, contending that the phrase "*unsubstituted or substituted*" renders the claimed subject matter indefinite arguing that it is not clear to which of the variables the phrase refers, and that it is not clear what the reactants in applicants' process are.

Applicants' amendment obviates the first of the Examiner's arguments. Favorable reconsideration of the Examiner's position is solicited with regard to the second argument in light of the following remarks.

With regard to the Examiner's second argument, it is respectfully submitted that the Board has repeatedly held that a precise definition in the claims of a class of materials employed in a process is not always required where the imprecision does not concern the essence of the claimed process¹). Neither substituent R¹, R², R³ and R⁴ participate in the reaction of the carboxamide (II) and the glyoxal monoacetal (III) in the presence of the carboxylic acid (IV) in accordance with applicants' process. Under such circumstances it is immediately apparent for a person of ordinary skill in the art that the presence or absence of additional substituents bonded to the alkyl or aryl moieties represented by those variables is of no concern to the essence of applicants' process.

Moreover, the test of definiteness under Section 112, ¶2, is whether one skilled in the art would understand the bounds of the claim when reading it in light of the information provided by the specification²). Given the nature of the reaction underlying applicants' process and the fact that the substituents R¹, R², R³ and R⁴ do not participate in the reaction, it is not seen why a person of ordinary skill in the art would encounter difficulties in determining the metes and bounds of the expression "optionally substituted C₁-C₁₂-alkyl" or the phrase "optionally substituted aryl" in the context of applicants' invention. Favorable reconsideration of the Examiner's position and withdrawal of the rejection under 35 U.S.C. §112, ¶2, is therefore respectfully solicited.

REQUEST FOR EXTENSION OF TIME:

It is respectfully requested that a three month extension of time be granted in this case. A check for the \$930.00 fee is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit

- 1) For example, Ex parte McAllister, 92 USPQ 373 (POBA 1950); Ex parte Calingaert et al., 52 USPQ 263 (POBA 1941). Note also Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 E.2d 1367, 231 USPQ 81 (CAFC 1986); Miles Labs., Inc. v. Shannon, Inc., 997 F.2d 870, 27 USPQ2d 1123 (CAFC 1993), which hold that the degree of precision which is necessary under Section 112, ¶2, is a function of the subject matter which is claimed.
- 2) Morton Int. Inc. v. Cardinal Chem. Co., 5 F.3d 1464, 28 USPQ2d 1190 (CAFC 1993); Orthokinetics Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1 USPQ2d 1081 (CAFC 1986)

Serial No. 09/639,681

PAUST et al.

PF 0000050634

Account No. 11.0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

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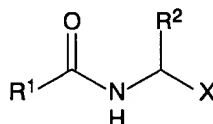
Encl.: THE LISTING OF CLAIMS (Appendix I)
THE AMENDED CLAIMS (Appendix II)

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A P P E N D I X I:

THE LISTING OF CLAIMS (version with markings, showing the changes made):

1. (currently amended) A process for preparing N-acyl derivatives of the formula I,



in which the substituents independently of one another have the following meanings:

X is $\text{CH}(\text{OR}^3)_2$, COOR^3 ;

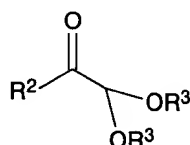
R^1 is hydrogen, optionally substituted $\text{C}_1\text{-C}_{12}$ -alkyl, optionally substituted aryl[, ~~unsubstituted or substituted~~];

R^2 is hydrogen, optionally substituted $\text{C}_1\text{-C}_{12}$ -alkyl, optionally substituted aryl[, ~~unsubstituted or substituted~~];

R^3 is optionally substituted $\text{C}_1\text{-C}_{12}$ -alkyl,

or, when X denotes $\text{CH}(\text{OR}^3)_2$, the substituents R^3 together with the oxygen atoms to which they are bonded and with the carbon atom to which the oxygen atoms are bonded form a 5- or 6-membered ring;

which comprises reacting a carboxamide $\text{R}^1\text{-CONH}_2$ of the formula II with a glyoxal monoacetal derivative of the formula III,



in the presence of a carboxylic acid $\text{R}^4\text{-COOH}$ of the formula IV where R^4 [=] is hydrogen or optionally substituted $\text{C}_1\text{-C}_{12}$ -alkyl, where the substituents R^1 to R^3 are as defined above.

2. (currently amended) A process as claimed in claim 1, wherein the substituents have the following meanings:

[~~X is COOR^3 ,~~]

R^1 is hydrogen, optionally substituted $\text{C}_1\text{-C}_8$ -alkyl;

R^2 is optionally substituted $\text{C}_1\text{-C}_8$ -alkyl, optionally substituted aryl[, ~~unsubstituted or substituted~~];

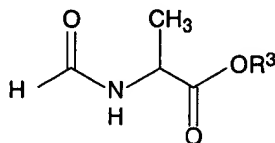
R^3 and R^4 are optionally substituted $\text{C}_1\text{-C}_8$ -alkyl.

3. (original) A process as claimed in claim 2, wherein the substituents have the following meanings:

R^1 is hydrogen;

R^2 to R^4 are C_1 - C_8 -alkyl.

4. (previously presented) A process as claimed in claim 2 for preparing N-formyl- α -aminopropionic acid esters of formula Ia



Ia

in which the substituent R^3 is C_1 - C_8 -alkyl.

5. (currently amended) A process as claimed in claim 1, wherein the substituents have the following meanings:

X is $\text{CH}(\text{OR}^3)_2$;

R^1 is hydrogen, optionally substituted C_1 - C_8 -alkyl;

R^2 is optionally substituted C_1 - C_8 -alkyl, optionally substituted aryl[, ~~unsubstituted or substituted~~];

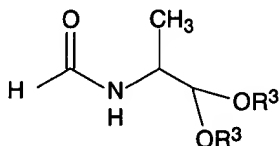
R^3 and R^4 are optionally substituted C_1 - C_8 -alkyl.

6. (original) A process as claimed in claim 5, wherein the substituents have the following meanings:

R^1 is hydrogen;

R^2 to R^4 are C_1 - C_8 -alkyl.

7. (previously presented) A process as claimed in claim 5 for preparing N-formyl-2-aminopropionaldehyde derivatives of the formula Ib



Ib

in which the substituent R^3 is C_1 - C_8 -alkyl.

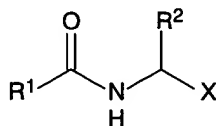
8. (previously presented) A process as claimed in claim 2, wherein the amount of the respective carboxamide R^1 - CONH_2 and carboxylic acid R^4 - COOH employed is from 250 to 800 mol%, based on the acetal of the formula II employed.
9. (original) A process as claimed in claim 8, wherein the amount of the respective carboxamide R^1 - CONH_2 and carboxylic acid R^4 - COOH employed is from 400 to 600 mol%, based on the acetal of the formula II employed.

10. (previously presented) A process as claimed in claim 8, wherein the carboxamide $R^1\text{-CONH}_2$ and the carboxylic acid $R^4\text{-COOH}$ are employed in the reaction in a molar ratio of 1:1.
11. (previously presented) A process as claimed in claim 5, wherein the amount of the respective carboxamide $R^1\text{-CONH}_2$ and carboxylic acid $R^4\text{-COOH}$ employed is from 50 to 250 mol%, based on the acetal of the formula II employed.
12. (original) A process as claimed in claim 11, wherein the amount of the respective carboxamide $R^1\text{-CONH}_2$ and carboxylic acid $R^4\text{-COOH}$ employed is from 100 to 200 mol%, based on the acetal of the formula II employed.
13. (previously presented) A process as claimed in claim 11, wherein the carboxamide $R^1\text{-CONH}_2$ and the carboxylic acid $R^4\text{-COOH}$ are employed in the reaction in a molar ratio of 1:1.
14. (canceled)
15. (canceled)

A P P E N D I X II:

THE AMENDED CLAIMS (clean version of all claims):

1. (currently amended) A process for preparing N-acyl derivatives of the formula I,



in which the substituents independently of one another have the following meanings:

X is $\text{CH}(\text{OR}^3)_2$, COOR^3 ;

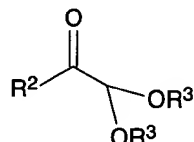
R^1 is hydrogen, optionally substituted C_1 - C_{12} -alkyl, optionally substituted aryl;

R^2 is hydrogen, optionally substituted C_1 - C_{12} -alkyl, optionally substituted aryl;

R^3 is optionally substituted C_1 - C_{12} -alkyl,

or, when X denotes $\text{CH}(\text{OR}^3)_2$, the substituents R^3 together with the oxygen atoms to which they are bonded and with the carbon atom to which the oxygen atoms are bonded form a 5- or 6-membered ring;

which comprises reacting a carboxamide $\text{R}^1\text{-CONH}_2$ of the formula II with a glyoxal monoacetal derivative of the formula III,



in the presence of a carboxylic acid $\text{R}^4\text{-COOH}$ of the formula IV where R^4 is hydrogen or optionally substituted C_1 - C_{12} -alkyl, where the substituents R^1 to R^3 are as defined above.

2. (currently amended) A process as claimed in claim 1, wherein the substituents have the following meanings:

R^1 is hydrogen, optionally substituted C_1 - C_8 -alkyl;

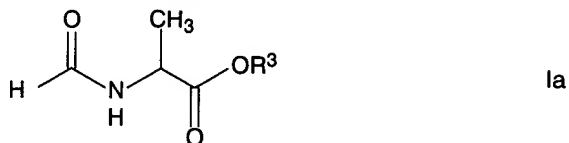
R^2 is optionally substituted C_1 - C_8 -alkyl, optionally substituted aryl;

R^3 and R^4 are optionally substituted C_1 - C_8 -alkyl.

3. (original) A process as claimed in claim 2, wherein the substituents have the following meanings:

- R¹ is hydrogen;
R² to R⁴ are C₁-C₈-alkyl.

4. (previously presented) A process as claimed in claim 2 for preparing N-formyl- α -aminopropionic acid esters of formula Ia



in which the substituent R³ is C₁-C₈-alkyl.

5. (currently amended) A process as claimed in claim 1, wherein the substituents have the following meanings:

X is CH(OR³)₂;

R¹ is hydrogen, optionally substituted C₁-C₈-alkyl;

R² is optionally substituted C₁-C₈-alkyl, optionally substituted aryl;

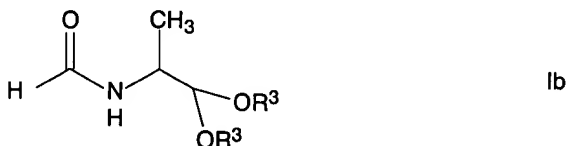
R³ and R⁴ are optionally substituted C₁-C₈-alkyl.

6. (original) A process as claimed in claim 5, wherein the substituents have the following meanings:

R¹ is hydrogen;

R² to R⁴ are C₁-C₈-alkyl.

7. (previously presented) A process as claimed in claim 5 for preparing N-formyl-2-aminopropionaldehyde derivatives of the formula Ib



in which the substituent R³ is C₁-C₈-alkyl.

8. (previously presented) A process as claimed in claim 2, wherein the amount of the respective carboxamide R¹-CONH₂ and carboxylic acid R⁴-COOH employed is from 250 to 800 mol%, based on the acetal of the formula II employed.

9. (original) A process as claimed in claim 8, wherein the amount of the respective carboxamide R¹-CONH₂ and carboxylic acid R⁴-COOH employed is from 400 to 600 mol%, based on the acetal of the formula II employed.

10. (*previously presented*) A process as claimed in claim 8, wherein the carboxamide $R^1\text{-CONH}_2$ and the carboxylic acid $R^4\text{-COOH}$ are employed in the reaction in a molar ratio of 1:1.
11. (*previously presented*) A process as claimed in claim 5, wherein the amount of the respective carboxamide $R^1\text{-CONH}_2$ and carboxylic acid $R^4\text{-COOH}$ employed is from 50 to 250 mol%, based on the acetal of the formula II employed.
12. (*original*) A process as claimed in claim 11, wherein the amount of the respective carboxamide $R^1\text{-CONH}_2$ and carboxylic acid $R^4\text{-COOH}$ employed is from 100 to 200 mol%, based on the acetal of the formula II employed.
13. (*previously presented*) A process as claimed in claim 11, wherein the carboxamide $R^1\text{-CONH}_2$ and the carboxylic acid $R^4\text{-COOH}$ are employed in the reaction in a molar ratio of 1:1.
14. (*canceled*)
15. (*canceled*)